



**SAFETY DATA SHEET**  
**BELZONA® 1111 (SUPER METAL) SOLIDIFIER**

**1. Identification**

**Product Identifier**

**Product name** BELZONA® 1111 (SUPER METAL) SOLIDIFIER

**Product number** SN2598

**Recommended use of the chemical and restrictions on use**

**Application** Engineering grade repair system for repairing and rebuilding machinery and equipment. For industrial use only.

**Uses advised against** The product should not be used for purposes other than those recommended in the appropriate Instructions For Use (IFU) leaflet.

**Details of the supplier of the safety data sheet**

<b>Supplier</b>	Belzona Inc. 2000 N.W. 88 Court Miami FL 33172 UNITED STATES 1-305-594-4994 sds@belzona.com	Belzona Canada Inc. 51-588 Edward Avenue Richmond Hill Ontario, L4C 9Y6 CANADA 1-905-737-2225 sds@belzona.com
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**Manufacturer** Belzona Polymerics Limited  
Claro Road, Harrogate  
North Yorkshire  
HG1 4DS, England  
+44 1423 567641  
sds@belzona.com

**Emergency telephone number**

**Emergency telephone** ChemTel: 1-800-255-3924 (North America)  
ChemTel: +1 813-248-0585 (International)

**2. Hazard(s) Identification**

**Classification of the substance or mixture**

**OSHA Regulatory Status** This Product is Hazardous under the OSHA Hazard Communication Standard.

**Physical hazards** Not Classified

**Health hazards** Skin Corr. 1B - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317

**Environmental hazards** Not Classified

**Reference** The full text for all hazard statements is displayed in Section 16.

**Label elements**

**BELZONA® 1111 (SUPER METAL) SOLIDIFIER****Pictogram****Signal word**

Danger

**Hazard statements**

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

**Precautionary statements**

P260 Do not breathe vapors.

P264 Wash contaminated skin thoroughly after handling.

P272 Contaminated work clothing must not be allowed out of the workplace.

P280 Wear protective clothing, gloves, eye and face protection.

P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.

P303+361+353 IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.

P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a poison center or doctor.

P333+313 If skin irritation or rash occurs: Get medical attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

P405 Store locked up.

P501 Dispose of contents/container in accordance with all Federal, State/Provincial and local regulations.

**Contains**

DIETHYLENTRIAMINE, 1,3-BENZENEDIMETHANAMINE, 2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL, TRIMETHYLHEXANE-1,6-DIAMINE

**Other hazards**

Not applicable.

**Hazards not otherwise classified (HNOC)**

Not applicable.

**3. Composition/Information on Ingredients****Mixtures**

<b>BENZYL ALCOHOL</b>	<b>10-30%</b>
CAS number: 100-51-6	REACH registration number: 01-2119492630-38-xxxx
<b>DIETHYLENTRIAMINE</b>	<b>5-10%</b>
CAS number: 111-40-0	REACH registration number: 01-2119473793-27-xxxx
<b>1,3-BENZENEDIMETHANAMINE</b>	<b>1-5%</b>
CAS number: 1477-55-0	REACH registration number: 01-2119480150-50-xxxx

**BELZONA® 1111 (SUPER METAL) SOLIDIFIER****2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL** 1-5%

CAS number: 90-72-2

REACH registration number: 01-  
2119560597-27-xxxx**TRIMETHYLHEXANE-1,6-DIAMINE** 1-5%

CAS number: 25620-58-0

**4. First-aid measures**Description of first aid measures

<b>General Information</b>	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
<b>Inhalation</b>	Remove to fresh air. Keep the patient warm and at rest. If breathing has stopped, administer artificial respiration. Give nothing by mouth. If unconscious, place in the recovery position and seek medical advice.
<b>Ingestion</b>	If accidentally swallowed obtain immediate medical attention. Keep at rest. Rinse mouth with plenty of water. Do NOT induce vomiting.
<b>Skin Contact</b>	Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use a proprietary skin cleaner. Do NOT use solvents or thinners. If irritation or inflammation persists, seek medical attention.
<b>Eye contact</b>	Contact lenses should be removed. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart, and seek medical advice.

Most important symptoms and effects, both acute and delayed

<b>Inhalation</b>	Exposure to vapors may result in irritation of the mucous membrane and the respiratory system; in severe cases burns may occur.
<b>Ingestion</b>	May cause chemical burns in mouth, esophagus and stomach.
<b>Skin contact</b>	Skin contact causes chemical burns. Symptoms may include pain, severe local redness and tissue damage. May cause allergic skin reaction.
<b>Eye contact</b>	Contact with eyes may cause severe irritation with corneal injury, which may result in permanent impairment of vision.

Indication of immediate medical attention and special treatment needed

Notes for the doctor None.

**5. Fire-fighting measures**Extinguishing media

Suitable extinguishing media Use: sand, foam, carbon dioxide, chemical powder or water fog for larger fires. Do NOT use water jet.

Special hazards arising from the substance or mixture

Flammability Class 3.2 Combustible Liquid IIIB

Hazardous combustion products In a fire, hazardous decomposition products such as smoke, carbon monoxide, carbon dioxide, oxides of nitrogen and ammonia may be produced.

Advice for firefighters

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**Protective actions during firefighting** Fire will produce dense black smoke containing hazardous products of combustion. Exposure to decomposition products may be a hazard to health. Appropriate positive-pressure self-contained breathing apparatus (SCBA) and full fire fighting turn-out gear (Bunker gear) should be worn. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains, sewers, ditches or waterways.

**6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Exclude sources of ignition and ventilate the area. Exclude non-essential personnel. Keep up-wind of spill to avoid breathing vapors. Do not get on skin or in eyes.

**Environmental precautions**

**Environmental precautions** Prevent spills from entering drains or sewers. If the product enters drains or sewers in large quantities, the local Water Company should be contacted immediately; in the case of contamination of streams, rivers or lakes, the appropriate National regulating agency.

**Methods and material for containment and cleaning up**

**Methods for cleaning up** Scrape the majority of the product into a suitable labeled container. Cover the spill area with sand or other suitable inert material and sweep up into the container. Clean surfaces down with a water and detergent mixture.

**Reference to other sections** For personal protection, see Section 8. For waste disposal, see section 13. For information on National regulating agencies refer to Section 16.

**7. Handling and storage****Precautions for safe handling**

**Usage precautions** GENERAL Keep the container tightly closed when not in use. Vapors may collect in the container headspace during transit or prolonged storage. Avoid breathing vapor when opening the container. Where possible open containers and mix components in a well ventilated place away from the application area. Prevent air-borne concentrations higher than the occupational exposure limits (see Section 8). Exclude non-essential personnel. Minimise the number of employees exposed and the duration of their exposure. Do not get on skin or in eyes. Smoking, eating and drinking should be prohibited in areas of storage and use. For personal protection see Section 8. Always keep in containers made of the same material as the supply container. Ensure emergency equipment (for fires, spills, leaks, etc.) is readily available. Good housekeeping methods and regular safe removal of waste materials should be observed. The Manual Handling Operations Regulations may apply to the handling of containers/packages of this product. Refer to the guide weight on the container/package when carrying out assessments. FIRE/EXPLOSION This product is combustible. Exclude sources of heat, sparks and open flame.

**Conditions for safe storage, including any incompatibilities**

**Storage precautions** Observe the label precautions. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorised access. Store separately from oxidizing agents and strongly acidic materials. ENVIRONMENTAL STORAGE PRECAUTIONS Spillage, incorrect storage of chemicals or waste materials or unsuitable disposal activities can result in pollutants seeping through the soil, causing serious harm to groundwater- which is a vital source of drinking water. All wastes especially liquid wastes, should be securely stored on site in designated areas that are isolated from waterways and groundwater and diked to contain any spillages.

**Specific end uses(s)**

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**Specific end use(s)** Application by plastic applicator or spatula provided. Mix with Base component before use. Please refer to the relevant Belzona® Instructions For Use for further information.

**8. Exposure Controls/personal protection****Control parameters****Occupational exposure limits****BENZYL ALCOHOL**

Long-term exposure limit (8-hour TWA): AIHA 10 ppm

Short-term exposure limit (15-minute): AIHA

**DIETHYLENTRIAMINE**

Long-term exposure limit (8-hour TWA): ACGIH 1 ppm 4.2 mg/m<sup>3</sup>

Sk

**1,3-BENZENEDIMETHANAMINE**

Ceiling exposure limit: ACGIH 0.1 mg/m<sup>3</sup>

Sk

ACGIH = American Conference of Governmental Industrial Hygienists.

Sk = Danger of cutaneous absorption.

**Ingredient comments** Exposure to chemicals assigned occupational exposure limits should be controlled using the most effective and reliable measures, proportional to the health risk, which minimise their escape and spread. All relevant exposure routes should be taken into account. The risk of exposure by inhalation to hazardous concentrations of diethylenetriamine under normal working conditions in a well ventilated area is minimal.

**Exposure controls****Appropriate engineering controls**

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of vapors below the relevant occupational exposure limits, suitable respirators should be worn (see 'Respiratory Equipment' below).

**Eye/face protection**

It is recommended that eye protection, for example safety glasses with side shields or goggles are worn at all times during the handling and use of this material. During subsequent machining, grinding, abrasion or removal of this product appropriate eye protection should be selected according to the type of tools or equipment used.

**Hand protection**

The breakthrough time of the gloves selected should exceed the expected use period. Where this is not possible, gloves should be changed in good time, and in any case before the breakthrough time is exceeded. Where doubt exists, advice should be sought from manufacturers or vendors of protective gloves in order to determine appropriate types for the particular circumstances. Barrier creams may help to protect exposed areas of skin but are not substitutes for full physical protection. They should not be applied once exposure has occurred. **SPECIFIC RECOMMENDATIONS** Wear protective gloves made of the following material: Neoprene. Nitrile rubber. **STANDARD APPLICATIONS / EMERGENCY SITUATIONS** Medium-heavy weight gauntlet type gloves that provide wrist protection are suitable. **EMERGENCY REPAIRS OR APPLICATION OF SINGLE UNITS** Light weight disposable gloves are normally suitable.

**Other skin and body protection**

**STANDARD APPLICATIONS** Synthetic polyethylene coveralls such as the Tyvek PRO-TECH® or equivalent coveralls manufactured to provide protection against liquid chemicals should be worn. Grossly contaminated clothing should be removed and the skin washed with soap and water or a proprietary skin cleaner. **EMERGENCY REPAIRS OR APPLICATION OF SINGLE UNITS** Cotton overalls are normally suitable.

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<b>Hygiene measures</b>	Wash hands at the end of each work shift and before eating, smoking and using the toilet. Ensure eye wash facilities (fountain, bottle, vials, etc.) are readily available. Do not put contaminated articles or equipment e.g. spatulas, applicators, brushes, cloths etc., into pockets. Where necessary, contaminated work clothing and shoes should be removed to prevent cross contamination of surfaces and the risk of inadvertent skin contact and ingestion.
<b>Respiratory protection</b>	It is essential that the concentration of the contaminant(s) in the application environment does not exceed the applicable occupational exposure limit(s) multiplied by the Assigned Protection Factor (APF) quoted for the respiratory protective equipment selected. STANDARD APPLICATIONS Where necessary, it is recommended that an OSHA/NIOSH approved air-purifying full facepiece or half-face respirator equipped with appropriate vapor cartridge(s) should be worn. Where the application environment is likely to be contaminated by significant concentrations of dust then the appropriate particulate prefilter (N-, R- or, P-series) should be worn in combination with the above. It is essential that the facepiece is correctly fitted and the filter is changed in accordance with the manufacturer's instructions.
<b>Immediate danger to life and health</b>	Where entry into unknown or Immediately Dangerous To Life or Health (IDLH) atmospheres is required, an OSHA/NIOSH approved pressure-demand self-contained breathing apparatus (SCBA) with a full facepiece or a pressure-demand supplied-air respirator (SAR) with a full facepiece in combination with an auxiliary pressure-demand SCBA respirator should be worn.

**9. Physical and Chemical Properties****Information on basic physical and chemical properties**

<b>Appearance</b>	Paste.
<b>Color</b>	Light gray.
<b>Odor</b>	Amine.
<b>Odor threshold</b>	Not applicable.
<b>pH</b>	Alkaline.
<b>Melting point</b>	Not available.
<b>Initial boiling point and range</b>	>100°C/>212°F @ 760 mm Hg
<b>Flash point</b>	>100°C/>212°F CC (Closed cup).
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	Not applicable.
<b>Vapour pressure</b>	Low.
<b>Vapour density</b>	> 1
<b>Relative density</b>	1.62 - 1.72 @ 20°C/68°F
<b>Solubility(ies)</b>	Immiscible with water.
<b>Partition coefficient</b>	log Kow: ≥ 4
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition Temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Explosive properties</b>	Not applicable.

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<b>Oxidising properties</b>	Not applicable.
<b>Other information</b>	This section contains typical values for Health, Safety and Environmental guidance only and is not intended to represent a technical specification for the product.

**10. Stability and reactivity**

<b>Reactivity</b>	There are no known reactivity hazards associated with this product.
<b>Stability</b>	Stable under recommended storage and handling conditions (see Section 7).
<b>Possibility of hazardous reactions</b>	No hazardous reactions expected when stored and handled as recommended.
<b>Conditions to avoid</b>	There are no known conditions that are likely to result in a hazardous situation.
<b>Materials to avoid</b>	Keep away from oxidizing agents and strongly acidic materials to prevent the possibility of exothermic reaction.
<b>Hazardous decomposition products</b>	Does not decompose when used and stored as recommended.

**11. Toxicological information**Information on toxicological effectsAcute toxicity - oral

**Notes (oral LD<sub>50</sub>)** Based on available data the classification criteria are not met.

Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** Based on available data the classification criteria are not met.

Acute toxicity - Inhalation

**Notes (inhalation LC<sub>50</sub>)** Based on available data the classification criteria are not met.

Skin corrosion/irritation

**Animal data** Corrosive to skin.

Serious eye damage/irritation

**Serious eye damage/irritation** Skin corrosive, assume corrosivity to eyes. No testing is needed.

Respiratory sensitisation

**Respiratory sensitisation** Based on available data the classification criteria are not met.

Skin sensitisation

**Skin sensitisation** May cause skin sensitization or allergic reactions in sensitive individuals.

Germ cell mutagenicity

**Genotoxicity - in vitro** Based on available data the classification criteria are not met.

**Genotoxicity - in vivo** Based on available data the classification criteria are not met.

Carcinogenicity

**Carcinogenicity** Based on available data the classification criteria are not met.

**IARC carcinogenicity** Not listed.

**NTP carcinogenicity** Not listed.

**OSHA Carcinogenicity** Not listed.

**BELZONA® 1111 (SUPER METAL) SOLIDIFIER****Reproductive toxicity****Reproductive toxicity - fertility** Based on available data the classification criteria are not met.**Reproductive toxicity - development** Based on available data the classification criteria are not met.**Specific target organ toxicity - single exposure****STOT - single exposure** Based on available data the classification criteria are not met.**Specific target organ toxicity - repeated exposure****STOT - repeated exposure** Based on available data the classification criteria are not met.**Aspiration hazard****Aspiration hazard** Based on available data the classification criteria are not met.**Route of entry**

Skin and/or eye contact Skin absorption

**Medical considerations**

Skin contact constitutes a pronounced hazard. Persons with a history of skin sensitization problems should only be employed in processes in which this product is used under appropriate medical supervision.

**12. Ecological Information****Ecotoxicity**

There is no data on the product itself. The following information is provided on the basis of the individual component data available.

**Toxicity****Toxicity**

Based on the individual component data, the product is expected to have experimental LC50/EC50/IC50 values between 1 and 10 mg/l in most sensitive species.

**Persistence and degradability****Persistence and degradability**

Based on the individual component data, the product is not expected to be rapidly biodegradable according to OECD/EC guidelines.

**Bioaccumulative potential****Bio-Accumulative Potential**

Based on the individual component data, the product is expected to bioaccumulate.

**Partition coefficient**log Kow:  $\geq 4$ **Mobility in soil****Mobility**

There is no data available on the product itself.

**Results of PBT and vPvB assessment****Results of PBT and vPvB assessment**

Not applicable.

**Other adverse effects****Other adverse effects**

None known.

**13. Disposal considerations****Waste treatment methods**

**BELZONA® 1111 (SUPER METAL) SOLIDIFIER****General information**

All cleaning activities including cleaning of equipment, floors and containers, can produce large volumes of contaminated waste. All cleaning agents used are potentially polluting. Water containing detergents, degreasers or any other cleaning agents must not be allowed to enter the surface water drains or soakaways. All water based cleaning/degreasing operations should be carried out in designated areas away from the surface water system and drained to the foul water system. Where this is not possible the surface water system should be isolated by suitable damming techniques and the contaminated water collected and removed for controlled safe disposal. Where water immiscible cleaners/degreasers are used for example solvents, the relevant product safety data sheet should be referred to for information on safe disposal.

**Disposal methods**

GENERAL Do NOT dump into any sewers, on the ground, or into any body of water. Disposal must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations are the responsibility solely of the waste generator. COMPONENT DISPOSAL TRANSIT PACKAGING: shrink or stretch wrap, boxes and fittings that have not been contaminated with product should be re-used or recycled. UNREACTED PRODUCT, uncleaned containers and contaminated packaging may qualify as hazardous chemical waste as defined in 40 CFR 261.20-24. REACTED PRODUCT, that has been mixed and cured in accordance with the relevant 'Instructions For Use' will form an inert filled polymeric compound that may be able to be disposed of as non-hazardous solid waste. Refer to your local licensed, permitted waste agent or facility.

**Waste class**

. Waste class is not relevant. .

**14. Transport information****General**

Labeling and packaging requirements may vary with pack and load size. Please refer to the current transport regulations. Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of accident or spillage.

**UN Number**

UN No. (DOT)	3259
UN No. (TDG)	3259
UN No. (IMDG)	3259
UN No. (ICAO)	3259

**UN proper shipping name**

Proper shipping name (DOT)	Amines, solid, corrosive, n.o.s. (containing Diethylenetriamine mixture)
Proper shipping name (TDG)	Amines, solid, corrosive, n.o.s. (Diethylenetriamine)
Proper shipping name (IMDG)	Amines, solid, corrosive, n.o.s. (containing Diethylenetriamine and Formaldehyde oligomeric copolymer mixture)
Proper shipping name (ICAO)	Amines, solid, corrosive, n.o.s. (containing Diethylenetriamine and Formaldehyde oligomeric copolymer mixture)

**Transport hazard class(es)**

DOT hazard class	8
TDG class	8
IMDG Class	8
ICAO class/division	8

**BELZONA® 1111 (SUPER METAL) SOLIDIFIER****Packing group**

DOT pack group	III
Tdg Packing Group	III
IMDG packing group	III
ICAO packing group	III

**Environmental hazards****Environmentally Hazardous Substance**

Non-regulated for transport under current Domestic Regulations.

**Special precautions for user**

Not applicable.

**Transport in bulk according to** Not carried in bulk.  
**Annex II of MARPOL 73/78**  
**and the IBC Code**

**15. Regulatory information****US Federal Regulations****SARA 313 Emission Reporting**

SECTION 313: This product does not contain toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372.

**SARA (311/312) Hazard Categories**

Acute

**US State Regulations**

**State Regulations Comments** U.S California Safe Drinking Water & Toxic Enforcement Act (Proposition 65): To the best of our knowledge, this product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

**Inventories****Canada - DSL/NDSL**

All the ingredients are listed or exempt.

**US - TSCA**

All the ingredients are listed or exempt.

**16. Other information**

**BELZONA® 1111 (SUPER METAL) SOLIDIFIER****General information**

The information contained within this safety data sheet does not constitute the users own assessment of workplace risks as may be required by other Local Regulations. As the specific conditions of use of the product are outside the supplier's control, the user is responsible for ensuring that the requirements of relevant Local Regulations are complied with. To the best of our knowledge, the information contained herein is accurate. However, some of the information presented and conclusions drawn are derived from sources other than direct test data on the product itself and while Belzona Inc. believes such sources to be reliable, the information is provided without any warranty regarding its correctness.

Since Belzona Inc. has no control over the conditions under which the product will be used, liability will not be assumed to exceed replacement or refund of the purchase price of this product. Except as stated herein, there are no express or implied warranties including implied warranties of merchantability or fitness for a particular purpose. Belzona Inc. assumes no liability for injury or incidental or consequential damage arising out of the storage, handling, use or, disposal of this product.

**Key literature references and sources for data****Training advice**

For further information please contact your supplier, Belzona consultant or Belzona direct.

**Revision comments**

REVISION. This material safety data sheet has been revised in the following Section(s): All Sections. Please observe the REVISION DATE. Should you be reading a material safety data sheet that is more than 24 months old or have concerns over its validity, please contact your local Belzona Distributor or Belzona direct ([sds@belzona.com](mailto:sds@belzona.com)) and the most current information will be sent to you.

**Revision date**

6/9/2015

**Revision**

3.2

**SDS No.**

11266

**SDS status**

English (North American). Approved.

**Hazard statements in full**

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

**NFPA - flammability hazard**

Burns only if pre-heated. (1)

**NFPA - health hazard**

Temporary incapacitation, injury. (2)

**NFPA - instability hazard**

Normally stable. (0)